



香 港 大 學

THE UNIVERSITY OF HONG KONG

Professor Danny CHAN

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Biography

Professor Danny Chan is a professor at Department of Biochemistry in Li Ka Shing Faculty of Medicine, The University of Hong Kong. Professor Chan graduated from the University of Melbourne, with a Bachelor of Science (Hons), Master of Science and Doctor of Philosophy.

Professor Chan's research interest is in skeletal biology, focusing on development, growth and degenerative processes of the skeleton in health and disease. In addressing a condition with an abnormal growth plate causing dwarfism, Professor Chan and his research team found that as a consequence of the activation of a cellular stress signal (ER-stress) in hypertrophic chondrocytes of the growth plate, a "reprogramming" event is induced and the cells become "rejuvenated". Understanding this "reprogramming" progress not only has significant implications in the control of chondrocyte differentiation in the growth plate, but also in the development of regenerative strategies for degenerative cartilage diseases. An approach is to define small molecules that could activate this rejuvenation event for the repair of cartilage as a therapy for degenerative conditions such as osteoarthritis and sport injuries.



Professor Chan is currently coordinating a Human Genetic Programme to identify genetic risk factors for intervertebral disc degeneration, a major cause of back pain. As a hallmark of disc degeneration is reduced water content in the disc, he used a combination of family linkage and genome-wide association analysis and identified CHST3 is an important enzyme in the disc for the proper function of matrix proteins to attract water. This genetic study has provided solid evidence for a genetic contribution to disc degeneration and new insights into the etiology, and changed the mindset of clinicians in patient care.

Professor Chan not only focuses on medical research, but also reaches out to the community and patient groups. He and his research team helped to initiate "The Little People of Hong Kong; 小而同" Foundation in Hong Kong, an NGO for the patient groups, and to increase the community's awareness of the needs of patients with rare skeletal disorders in Hong Kong.

Awards and Scholarships

- 2014 Croucher Senior Research Fellowship, The Croucher Foundation
- 2009 Outstanding Research Output Award, The University of Hong Kong
- 1997 The Premier's Award for Health & Medical Research, Victoria, Australia